

Application No. 10/802,263  
Response dated Wednesday, April 12, 2006  
Submitted by Louis J. Franco, USPTO Reg. 38,885

Transmitted via facsimile to (571) 273-8300  
Reply to Office Action of January 12, 2006  
Attorney Phone: 978-582-5550

## REMARKS/ARGUMENTS

### In re rejections under Section 102 for anticipation by Bonnet (U.S. Pat. 5,971,132)

In the Office Action mailed January 12, 2006, the Examiner rejected under 35 U.S.C. 102(b) original claims 1, 4-9, 14-20 as being anticipated by US Patent No. 5,971,132 to Bonnet (hereinafter, the '132 patent or "Bonnet"). More specifically, in alleging that Bonnet shows all the structure required by claims 1, 4-9, 14-20, the Examiner stated:

"Bonnet shows bi-directional transition module 10 which can change the translation direction of an article translating on a primary roller conveyor 20 along a first axis by moving the article to a first or second secondary conveyor 14a/14b disposed at an angle to the (primary) roller conveyor. The module has a chassis (not shown) which supports a first driver member set 25a,c,e including endless flexible drive belts 32 and a second drive member set 25b,d including endless flexible drive belts 32 between the rollers of the primary (roller) conveyor in a serial fashion with respect to the translation direction of an article on the primary conveyor. The drive belts have a first segment with a low profile that does not extend above a plane defined by the tops of the rollers as it cycles through the upper run of the belt between pulleys 30. A second segment of the drive belts is defined by posts 35 having an apex that extends above the plane defined by the tops of the rollers as it cycles through the upper run of the belt. Each of the belts is driven by its own reversible motor 44 through its own common drive shaft. The belts of the first and second sets cycle through their upper runs in directions orthogonal to the axis of the primary conveyor independently of one another so that they are alternatively cyclable in opposite directions to move articles toward the first and second secondary conveyors."

Although Applicants' Attorney withholds comment as to whether claim 1 was

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anticipated by Bonnet prior to the current amendment thereof, claim 1 as amended defines at least one belt that includes, in addition to a first and a second segment that are of, respectively, low and high profile, at least one transition region that is of gradually increasing thickness between the first and second segments. The transition region now incorporated into claim 1 facilitates the article-lifting function described in Applicants' detailed description and is not suited to the article-pushing/reorienting function(s) for which Bonnet's roller posts (or cogs) 35 are explicitly configured. Accordingly, Bonnet nowhere teaches or suggests a belt having first and second segments of disparate thickness joined by a tapered region of gradually changing thickness. Also worth noting, for purposes of appreciating the structural differences between the drive members of Bonnet and the Applicants' transition modules, are the fact that Bonnet's posts are intended for pushing sideways against an upwardly-extending side portion or edge of a package, while Applicants' higher profile second segment is intended to engage, lift and translate sideways a downwardly-facing portion of a package, for example. The tapered region facilitates (i) more gentle handling of articles by eliminating abrupt changes in drive-member (e.g., belt) profile and (ii) grabbing or pushing of the article before enough of the higher profile drive-member segment is under the article to lift and translate the article toward the right or left relative to its initial direction of travel. The inclusion of a "tapered transition region" alone, being entirely absent from the teachings of Bonnet, renders claim 1 patentably distinct from Bonnet. Accordingly, Applicants' Attorney respectfully requests withdrawal of the rejection of claim 1 based on Bonnet.

Dependent claims 2 through 7 are retained in the case as originally filed (i.e., without amendment). The limitations of original claims 8 and 9 have been combined as represented in currently amended claim 8, and original claim 9 has been canceled. Original claims 4 through 9 were rejected under Section 102 as being anticipated by Bonnet. Each of current claims 4 through 8 depends directly or indirectly from claim 1 and, therefore, includes all of the limitations of claim 1. Accordingly, regardless of their status in relation to Bonnet prior to the amendment of claim 1, claims 4 through 8 are also allowable, even if only by virtue of their dependence on an allowable base claim.

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In addition to rejecting original independent claim 1, the Examiner also rejected original independent claim 14, and original dependent claims 15-20, as being anticipated by Bonnet. While making no representation or admission relative to the allowability of original claim 14 over Bonnet prior amendment, Applicants' Attorney has amended claim 14 to include, as limitation "(i)" in the "wherein" clause, the following limitation:

" . . . wherein (i) at least one of the least one flexible drive members of at least one of the first and second drive-members sets includes at least one tapered transition region that gradually increases in thickness between the first and second segments . . . "

Although not previously claimed, the currently included "tapered transition region" finds more-than-adequate antecedent basis in FIG. 1B and the detailed description at page 12, lines 5 through 8.

Dependent claims 15 and 17 through 19 are retained in the case as originally filed (i.e., without amendment), and claims 16 and 20 have been canceled. Original claims 15 and 17-19 were rejected under Section 102 as being anticipated by Bonnet. Each of claims 15 and 17-19 depends directly or indirectly from claim 14 and, therefore, includes all of the limitations of claim 14. Accordingly, regardless of their status in relation to Bonnet prior to the amendment of claim 14, claims 15 and 17-19 are also allowable, even if only by virtue of their dependence on an allowable base claim.

New independent claim 21 includes limitations that account for a point articulated at the upper half of page 3 of the Examiner's Action. More specifically, at page 3, the Examiner noted the following in relative to Bonnet and original claims 6 and 18:

"In regard to the limitation of claims 6 and 18 that the at least one flexible drive member(s) of the first and second drive member set are driven by a first and second common drive shaft, respectively, it is noted that the belts of the first and second drive member sets, as they were characterized above, have their own

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drive shafts instead of the claimed common drive shaft. However, the claims (6 and 18) only require that each drive member set include one flexible drive member so that the first and second common drive shafts need only drive a single belt. Therefore Bonnet shows all that is required by the claims because it may be characterized as having a first drive member set 25a with a belt 32 driven by a first common drive shaft and second drive member set 25b with a belt driven by a second common drive shaft."

Based on the observations quoted above, the inclusion of the following limitations in new claim 21 renders Bonnet non-anticipatory of new claim 21:

"... a drive-member set including at least two endless flexible belts, ... wherein at least two of the at least two belts of the drive-member set are driven by a common drive shaft."

New dependent claim 22 is patentably distinct from Bonnet even if only because it depends from allowable base claim 21. However, new claim 22 also includes the distinguishing "tapered transition region that gradually increases in thickness between the first and second segments."

Based on the preceding remarks, Applicants' Attorney submits that each of the 19 claims now pending in the case is patentably distinct from Bonnet.

**In re rejections under Section 102 for anticipation by Shyr (U.S. Pat. 5,699,892)**

In the Office Action mailed January 12, 2006, the Examiner rejected under 35 U.S.C. 102(b) original claims 1-4 as being anticipated by US Patent No. 5,699,892 to Shyr (hereinafter, the '892 patent or "Shyr"). More specifically, in alleging that Shyr shows all the structure required by claims 1-4, the Examiner stated, in relevant part:

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" . . . The module has a chassis 3 which supports a first drive member set including endless flexible drive belts 81/81' between the rollers of the primary conveyor. The drive belts have a first segment with a low profile that does not extend above a plane defined by the tops of the rollers as it cycles through the upper run of the belt on frame members 71/71'. A second segment of the drive belts is defined by rollers 812 having an apex that extends above the plane defined by the tops of the rollers (*presumably the Examiner is referring to the rollers of the primary conveyor to establish the analogousness*) as it cycles through the upper run of the belt. The belts are driven by a reversible motor 2 through a common drive shaft 41 and drive wheels 51 . . ."

The Examiner correctly notes that the first driver-member set of Applicants' independent claim 1 includes at least one belt. It is also apparent that the Examiner appreciates that by "drive member," the Applicant is referring to those endless flexible, cycling members each of which has at least one relatively high-profile segment for selectively engaging an article to lift and translate the article to one side or the other of the primary conveyor. Where Applicants' Attorney fundamentally differs with the Examiner's assessment and applicability of Shyr is in the Examiner's misidentification of Shyr's "drive members" as "belts." In no instance does Shyr disclose or suggest that the drive members that are intended to lift and move the articles translating on the primary conveyor are "belts;" on the contrary, they are invariably "composite chains." This is an important distinction. For instance, while composite chains may endure longer than belts, belts provide the advantages of (i) being substantially less noisy than chains when cycling; (ii) requiring relatively little routine maintenance, such a oiling; and, most importantly, (iii) being more gentle on an article whose direction is being transitioned. The latter point is particularly true when the article in question is, for instance, a cardboard box of non-negligible mass; the rollers 812 in Shyr pose a very real potential to punch holes in and tear the cardboard bottom of such a box. In addition, relatively flat and light articles face the potential of being engaged edgewise by the initial portion of the higher profile segment of Shyr's chain, unless the article's arrival

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in the transition region is extremely well timed with the cycling of the chain(s). Edgewise engagement of such an article can result in article damage by the compression of the article between, for example, the first "high link" in one of Shyr's chains and guide fencing or conveyor railing on the side of the primary conveyor to which the article is being moved.

Based on the aforementioned distinctions, independent claim 1 as originally filed was patentably distinct from Shyr. However, claim 1 as currently amended now further recites the previously discussed "tapered transition region that gradually increases in thickness between the first and second segments," a limitation entirely absent from Shyr. Accordingly, independent claim 1 is now patentably distinct from Shyr on at least two major grounds.

Each of claims 2-4 depends directly or indirectly from independent claim 1 and is, therefore, allowable, even if only by virtue of this dependence.

In light of the foregoing remarks/arguments, Applicants' Attorney respectfully submits that all claims now in the case are allowable and requests that a timely Notice of Allowance be issued. Moreover, although in various instances, Applicants' Attorney refers to dependence upon an allowable base claim as a basis for supporting the allowability of a dependent claim, in no instance does this observation constitute an admission that such dependence is the only basis upon which a dependent claim to which the argument is applied is patentably distinct from the art cited against it.

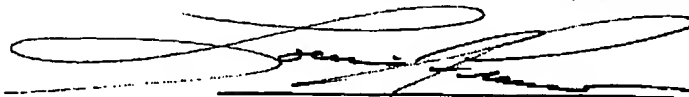
#### **NO FEES DUE**

Because this response is being filed on the non-extended deadline of April 12, 2006, no extension fees are due. Furthermore, three independent claims, and 19 total claims, are now pending in the case; therefore, no extra-claim fees are due.

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Respectfully submitted, *April 12, 2006*



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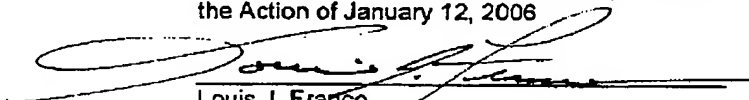
\*The correspondence covered by this certificate of mailing includes a total of 17 pages in the main body of this Amendment.

#### CERTIFICATE OF TRANSMISSION

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